G R. S 59]

GENERAL AND REVENUE SECRETARIAT.

1911
(Municipal)

File No. 52 of 1911

Serial Nos. 5, 7–7

Papers Filed.

Month August 1911

SUBJECT.

Deputation of Col. Smyth to study the Drainage System of Ahmedabad

PREVIOUS REFERENCES.	LATER REFERENCES.
Rl 52-10 Sls 1–4	Rl 119-11 (142)
—do— do Sls nil	

Abdulkadir

G.R.S 11] 1940 - GW

GENERAL AND REVENUE SECRETARIAT

(Mb.)

NOTES.

File No. 52 - W

File Heading

Deputation of Col. Smyth to study the Drainage System of Ahmedabad -

From

The Law Commr.

No 8005 Dated 7 to 40 Received 11/5 - 10 40

Diary No 2246 | Enclos 1 | Spare Copies — | Serial No 5

Brief Abstract of Letter.

Submits report of the result of his inspection of the drainage system at Ahmedabad and offers suggestions in the matter of sinking good drinking water wells

NOTES AND ORDERS

Submitted with previous papers for orders. If approved, a copy of Col. Smyth's report may be sent to the Chief Engineer for information with reference to the schemes to be prepared hereafter by the Town Board on the lines

Notes—First sheet

GPB—15,000—24-4-09

G R S. 12]
General and Revenue Secretariat.

File No. 52 of 1909

Serial No.

lines of his suggestions.

2. As regards Col. Crump's suggestion about the sinking of wells, the Chief Engineer's opinion may perhaps be called for

15/10/10

3 Please put up a draft accordingly

16.10.10

4 Draft submitted

5/11/10 18.10.10

12/10

1076
21.10.10

6) In the first instance please submit the report to the Dewan. It is an exceedingly interesting one

22/10/10

7) Dewan)

8411
22.10.10

8) Draft approved — 22/10/10

9) Issue

4/11/10

NOTE—Contin sheet

GPS—50,000—12-8-10

G. R. S. 12]
General and Revenue Secretariat.

File No. 52 of 1910

Serial No.	
7	10) To the Chief Engr., Chairman, Improvement Trust & Sanitary Committee, Ahmedabad, Memo No. 4255-7 dt. 19-11-10. Directs that a copy of the Hydraulic report be forwarded to the Chief Engr. for information in connection with the scheme to be prepared by the Trust Board on the lines of the Chief Engr's suggestions as required by G. O. No. 9902-Genl-dt. 8-5-10. and that another copy to the Chairman and the President of the Improvement Trust for record and requests the Chief Engr. to favour his opinion on the suggestion of the Hydraulic about the question of sinking wells as also about the advisability of the system being adopted at Ahmedabad."
8	11) From the Chief Engr. No. 6106 dt. 7-7-11. States in reply that he is well acquainted with the infiltration system in the bed of the Sabarmati at Ahmedabad and also in the river Tapti at Surat, and that there is no rock in those rivers for a great depth but there is sheet rock at a depth of about 8 feet in the bed of the Sabarmati at Ahmedabad and that as there is no room for infiltration in the latter river, the Ahmedabad system will not answer there.

ors—am—1500

G R S. 12]
General and Revenue Secretariat.

2nd File No. 52 of 1911

Serial No.

12) The Chief Engineer's opinion on the suggestion of col Smyth regarding the system of sinking wells has not yet been received may the present reference be recorded? Draft submitted.

Hon. Hon. 13) Reference Sinking wells 18 7-11 as proposed by the Sanitary Comm. will be of no use unless water can be obtained.

14) Draft recording submitted for approval or other orders

17 7-11

15) Approved

18/7/11

16) Issue and submit for the Dewan's information

19 7-11

9 17) To the Sanitary Comm., Chief Engr & Presidt of Madras Municipality No 689-91 & 24 7 11

Records the Correspondence

The draft was issued and the file is submitted to the Dewan for information as ordered by the Asst Secretary in para 17 supra.

1268 24/7/11

24 7. 11

Seen by the Dewan

11 8 11

Note—Contn sheet

24/7/11

GPB—50,000—12-8-10

Public Health Department.

1910 -N -

From

The Sanitary Commissioner
to the Government of Mysore.

To

The Secretary to the Govt of H H the
Maharaja of Mysore, Gen. & Rev Depts,
Bangalore.

Dated 7th October 10

Despatched 11th

Received

General No 1808

Enclosure No —

Submitting the Insp'n Note of the Sanitary Commissioner during the recent visit to Ahmedabad

No. 1804
Enc

OFFICE OF THE SANITARY
IN MYSORE.

Dated, Bangalore, the 7/15 October 1

From

LT-COL. JOHN SMYTH, M.D., I M S,
Sanitary Commissioner to the Government of
His Highness the Maharaja of Mysore,

To

C S Balasundaram Iyer Esq , B.A ,
Secretary to the Government of His Highness the
Maharaja of Mysore, General and Revenue

Sir,

As Government were pleased to accept my suggestion that I should visit Ahmedabad on my way back from furl to inspect the system of sewage removal in force there, I accordingly visited that city on 24th Ultimo The Vi President Mr Ramanbhai M Nilkanth, the Chief Officer Mr. Narmadasnankar Mehta B A , and Mr Gandhi, the Municipal Engineer, kindly accompanied me during my inspection and readily afforded information

2 We intended to visit first that all important item their installation, the sewage farm, but on the way there we passed the pumping station and called on to see the machinery The pumps are of an excellent type but through want of care have already lost over half their efficiency

3 The sewage from the city runs in a deep cut-and-cover channel to a well and is pumped therefrom by these pumps to the sewage farm

4 We then visited the farm There are an old and a new farm, the former not now in use, the latter is being worked but is unfinished, to which is attributed the shocking

shocking state of affairs that exists including large areas of black bubbling sewage, and sewage-logged areas under what is called cultivation.

5 It seems clear that too much economy is observed here; but it is not my business to attribute causes but to state exactly what I saw

6 But, given a man in charge who understands sewage farming, and a proper staff, things ought to be very different from what they are. The Chief Officer told me that they were guaranteed a profit of Rs 90,000 a year by the Engineer who planned the system, but they only raise about Rs 5,000/-! Of course as only half the city is drained, they could not expect Rs 90,000/- return however well the farm is worked, still, to get only Rs 5,000/- from half the city is distinctly disappointing. I will not dwell further on this sewage farm except to remark that I am more impressed than ever with the conviction I have always entertained that the first thing to complete in installing a water carriage system in a city is the outfall.

7 A sad day will it be for Mysore Province if ever a state of affairs such as this Ahmedabad Sewage farm presents is permitted to exist within her boundaries! So, if we ever start a big sewage farm we must have a clear guarantee that the man in charge shall be a trained man suitably paid, and that he shall not be hampered for want of funds. Under such circumstances, a farm must pay, and be a delight instead of an offence to the senses, as well as an object lesson to the farmers as to what can be done with sewage.

8 Thence we went into the town to see the arrangements for the carriage of the sewage.

9 It must here be stated again that only half the city is drained (corresponding to about 150,000

150000 persons) on the separate system. Now every house in that area has one connection with sewer pipes, provided when the sewers were being laid, and as part of the estimate. But this connection removes sullage only and not night-soil. The system is intended to remove the night soil also, but only about 150 houses are yet connected with the system for that purpose. So practically the whole of the night soil has still to be removed on the old pail system. And the Municipality have not as yet been able to diminish the numbers of their Municipal staff (scavengers etc) by a single man.

10 The night soil is carried by the scavengers from the houses to suitable carts by which it is removed, some to what is called a poudrette station, the rest to what is called a pail-depôt At the former the soil is mixed with earth in a most offensive manner, and when the mixture is dry it is carted off by farmers and makes a useful manure, at the depôt the management is too dreadful and in all my experience it takes the palm for offensiveness. However, the soil deposited here gets finally into the sewers and carried off to the sewage farm. Now there is not the least necessity for the pail-depôt being so offensive, the construction is crude and the working of it is cruder still.

11 It has to be remarked that in quite a large number of houses there is no sort of latrine, and the people are expected to go to the big public latrines in all weathers, but when they are "taken short" or the weather is wet, they just sit on the streets - and many a deposit did I see on my rounds.

12 The public latrines shown me were quite simple in type and had to be flushed down with buckets. Their contents flow into the sewers and are then carried to [illegible]

5

would be ruts, the walls undermined, thousands of gallons breeding places provided for our natural enemy, the anopheles mosquito. I may mention in passing that in Bombay City while closed drains (separate system) are used for houses inhabited by Europeans and better class Natives and for Bungalows and houses standing in compounds, open drains are advantageously used in cases of tenement houses or chawls A combination of these two is sometimes used, the closed drains serving, generally speaking, only the water closets, and the open drains serving for the sullage from baths, sinks &c In Bombay there is one set of sewers for sewage only and a different set of conduits for the surface or storm waters hence in every house gully a leaping weir is used, so that in case of a small flow, for instance, of sewage thrown out on to the house gully, the liquid flows over the weir into the gully-trap fixed in connection with the sewers, but a large flow of rain water falling on the house-gully leaps over the weir, and falls into another gully-trap which is in connection with the storm water drains

16 It will be seen that in Bombay separate [illegible], rain water does not gain access to the sewage pipes, but the separate system of underground drains which, of course, means great expense

17 The system in Mysore just installed provides for flood water running in surface drains for considerable distances, and it is just this that causes [illegible], for the sand and mud washed from the streets during torrential rains into the surface drains [illegible] the underground pipes and finally blocks the entire system itself - thus requiring a strong special staff to [illegible]

18 With this deviation I will revert to the Ahmedabad system I have said that every house in the drained area has at least one connection and that is for sullage only

the farm

13 The sewers themselves are of the type used in England So a description of them is unnecessary, and they are, as the name of the system - Separate - indicates, intended for sullage and nightsoil only, and not for rain water

14 Yet the construction is such that even after only 1½ inches of rain the system gets waterlogged, and the pressure within it so great after a heavy fall, that even the heavy lids of the inspection chambers flip off on to the street!

15 This was so unsatisfactory that I called at Poona to see Mr Mandy, the Engineer who installed the system, to see if it could be accounted for and remedied He said that the waterlogging was due in the first place to the rain water getting into the system from the houses through the house-connection, and secondly, to the over charge on the soil being dilator in opening the sluices provided to let away the accumulated water when the rains are on For, this trouble was more or less anticipated It was foreseen that the pumps could not raise all the fluid that would accumulate in the mains during the rains and so an arrangement was made, whereby, on to the surface the sewage, in a small dilute state, is passed into the river There is really no great objection to this arrangement, provided only it is worked properly, but I am not carrying out the 'separate system' in the strict sense of the term I asked Mr Mandy whether rain water is not allowed to run outside the roof so as to enter the sewers and thus give rise to all the trouble - "Oh" said he, "that would be against the orders" also " I replied "certainly" I had in mind the fine spectacle the streets in Mysore City would present in rains if unprovided with surface drains, - the streets would

only A gully trap outside the house intervenes between the house and the drain There is a special staff whose sole duty it is to clear these gully traps daily, and they work under the Municipal Engineer These gull traps used to give some trouble owing to grit and rubbish from the houses getting into them, and the scavengers, instead of taking out the rubbish used to merely lift the grating and let it run into the sewer I saw Mr Mandy about this also and he told me he had ordered a grating to be [illegible] built into the orifice of the gully inside the house, that where this was done the gully traps gave no trouble. I wonder it is not carried out in every house

19 A system of flushing tanks is provided as in Mysore, but of course they are below the ground level instead of above it as in Mysore I tested one of them and it worked very satisfactorily without any tipping gear as is fixed to those in Mysore

20 On the whole the system is one which can [illegible] be introduced [illegible] in Mysore being taken to avoid the failings it presents in Ahmedabad, but a surface system is indispensable also in a malarious region like Mysore Of course it will be disappointing not to be able to do away with the existing scavengers for [illegible] days, also to be assured a special staff will [illegible] for the upkeep of the system just as is necessary for the upkeep of that now installed, but the trouble in the separate system will be far less than with the existing system while the drainage is skilled supervision can be trusted to look to [illegible] and [illegible] holders have connected their installations with the new system, there will be end of scavenger nuisance gone for ever away Such connections have been put up in Ahmedabad (about 150 houses) the Municipality, but wherever the house owner does not pay cash for the fixing an enhanced tax is imposed [illegible] by the cost of fixing it is covered after a term of years,

about

about 30 I believe.

21 The separate system enables small urinals to be erected here and there all over the drained area which is a great convenience to the citizen I do not see why numerous small latrines should not be erected in the same way So much for the drainage

22 I had a glarce at the water works also, and here I saw illustrated what I have more than once advocated in this State, namely the sinking of wells close together, and connecting them by a pipe so as to enable the water from all of them to be drawn from any one of them and pumped up to the town unfiltered. Here in Ahmedabad thay have sunk three wells in the river bed sixteen feet wide and sixteen feet deep connected one with the other by a stoneware pipe, both wells and pipe being watertight, the only way of access for water to the interior of the well being through the bottom of the well, the water thus produced, is very clear and contains very few microbes It is pumped into an elevated cistern whence it gravitates to the town Cholera which used to rage in this town is now a thing of the past

23 The system might be tried at Closepet and thus save the cost of filters.But it must be undertaken in all seriousness - the walls of the well must be absolutely watertight and so high that even at high water none could get into the interior through the manhole. At Ahmedabad they told me that the off-take pipe was fixed at a point about 4 feet from the bottom of the well A clever Parsee Engineer is in charge

24 This report was delayed so that I might receive the Municipal Regulations of Ahmedabad which the Chief Officer promised to send me, but up to date they have not arrived and I have thought it well to delay my report no longer

for

6

for the sake of them

I have the honor to be,

Sir, ,

Your most obedient servant,

M D ,

Lt -Col ,I M S ,

Sanitary Commissio r

G.R.S. 281

Diary No of letter replied to 22/4/60

File No. 52-60
Serial No 7

Proceedings of the Government of His Highness the Maharaja of Mysore.

GENERAL AND REVENUE SECRETARIAT
(Rel.)

Bangalore, the 17. 6. 1960

Date of issue 19/11/60

Signed by [illegible] on

READ—

Letter No 1808 dated the 7th October 1960 from the Commr., reporting with reference to G.O No B60-3 dated the 4th August 1960, Revenue Dept. (Rel 52-60-2) his investigation of the drainage

ORDER [illegible] No

system at Ahmedabad and offering certain suggestions in the matter of sinking drainage water wells.

Order thereon 6255-72 dated 19/11/60 — A Copy of G.O. 1/7 over

SUBJECT

11

Smythe's report will be forwarded to the Chief Engineer for information in connection with the scheme to be prepared by the Irish Board on the lines of the Chief Engineer's suggestions as required by G.O. No 9902-6 Dated the 3rd May 1910 — Another copy (2) in regard to Col. Smythe's suggestions about the system of sinking driving wells, the Chief Engineer is requested to favour Govt with his opinion thereon as also about the advisability of the system being adopted at Cherat

will be forwarded to the Chairman of the Irish Board of Agriculture for information and return

Ans

21/11/11

Asst

Secy

9/11/10

Go,

The Chief Engr with resp to Col Smythe's Report.
" Chairman Imperial & Irish Boards
" Sanitary 2
" P.I. Imperial with a copy of this Report

Asst 18/11

D. 169

No 6106.

MYSORE P. W. DEPARTMENT,

Central Office,

Bangalore, 7th July 1911.

Ml 52-10 & 8

From

M. VISVESVARAYA, Esq., M.I.C.E.,

Chief Engineer of Mysore,

B a n g a l o r e.

To

C. S. Balasundaram Iyer, Esq., B.A.,

Offg. Secretary to the Government of

His Highness the Maharaja of Mysore,

General and Revenue Departments.

Sir,

With reference to para 2 of Government Proceedings No. 4255-7/Ml.52-10-7 dated the 19th November 1910, I have the honour to state that I am well acquainted with the infiltration system in the bed of the Subarmati at Ahmedabad and also in the river Tapti at Surat, with both of which I was at one time officially connected.

There is no rock in those rivers for a great depth, but there is sheet rock at a depth of about 8 feet in the bed of the Arkavati at Closepet. There is no room for infiltration in the latter river, and the Ahmedabad system will not answer here.

I have the honour to be,

Sir,

Your most obedient servant,

M. Visvesvaraya

For Chief Engineer of Mysore.

B.V.

G.R.S. 28]

File No 52-10.
Serial No 9

Diary No of letter replied to 168

Proceedings of the Government of His Highness the Maharaja of Mysore.

GENERAL AND REVENUE SECRETARIAT
(Mf)

, the 19

Date of issue 24-2-11

Signed by Mr C K Jayarama Iyer

READ—

Letter No 606 dated the 7th July 1911 from the Chief Engineer of Mysore, stating with reference to para 2 of Govt Proc No 4255-7/Rev 52-10-7 dated the 19th Nov 1910, that he has called for ~~reports~~ the ~~opinion~~ of the Executive Engineer of the ~~division~~ ~~concerned~~ with the ~~question~~ ~~regarding~~ the bed of the Sabarmati at Ahmedabad and also in the ~~vicinity~~ ~~of~~ Sabarmati Bridge at Ahmedabad ~~and that there is no~~ ~~rock in the river bed for the~~ ~~foundations~~

over

there is no rock for a great depth in

SUBJECT.

~~depth~~; but there is hard rock at a depth of about 8 feet in the bed of the Sabarmati at Asarwa and that, as well is suitable for infiltration in addition to the existing ~~Ahmedabad system~~ of infiltration with not answerable.

Order thereon No. 689-91/Jud 52-10-9: 5 & 7 11

Recorded

~~2 The Chief Engineer is requested~~ 4

to furnish his opinion at an early date regarding Col Smyth's suggestion about the system of sinking wells referred to in para 2 of the first order of the 19th Nov: 1910 quoted above.

Ille

For Secretary

(1) The Sanitary Commissioner

(2) The Chief Engineer -

(3) The President of municipalities, Bangalore Dist.

Cno 2/7/11